FIG. 1

OUTPUT OF ESTIMATED CHARACTERISTIC VALUE

COMPRESSIBILITY
RESISTANCE
ADHESION FORCE

ITERATE C/H OF 10 STANDARDS

NUMBER OF LOOPING OPERATIONS = 10

SELECTION ITEMS
WIRE SIZES (0.3 TO 8 mm^2),
TYPES OF CONSTITUENT WIRE (STANDARD, COMPRESSED, COAXIAL), AND
PLATED/NON-PLATED TERMINAL

C/W: CRIMP WIDTH
C/H: CRIMP HEIGHT

20 C/W ESTIMATION SECTION
21 C/W SETTING SECTION
30 C/H ESTIMATION SECTION
40 COMPRESSIBILITY ESTIMATION SECTION
50 ADHESION FORCE ESTIMATION SECTION
60 RESISTANCE ESTIMATION SECTION
70 SEQUENTIAL OUTPUT SECTION

Barrel Length
Plate Thickness
Computed Cross-Sectional Area
Radius of Anvil
Number
Crimp Length

Fig. 2A

Fig. 2C

Fig. 2E

Pressure

Fig. 2F

Fig. 2B

Crimper Surface

Anvil Surface

Fig. 2D

FIG. 3

○ 3 0 6 a－5 p (1)

○ 3 0 6 a－4 p (2)

○ 3 0 6 a－3 p (3)

○ 3 0 6 a－2 p (4)

○ 3 0 6 a－p (5)

3 0 6 a ●　→　● 3 0 6 a (6)　　3 0 6 a
(推定値1個)　　　　　　　　　　　　(離散値１０個)

One Estimated Value

○ 3 0 6 a＋p (7)

○ 3 0 6 a＋2 p (8)

○ 3 0 6 a＋3 p (9)

○ 3 0 6 a＋4 p (10)

10 Discrete Value

P: Interval　　0.05(0.1)mm

FIG. 4

1 0 ──　　　　　──1 6

Neural Network

1 6 A　　　　1 6 B　　　　1 6 C

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Fig. 5A

[REQUIREMENTS FOR ESTIMATION] ======================================

		LIMIT VALUES
WIRE TYPE	AVSS-f	TERMINAL "t" 0.44mm
WIRE SIZE (NOMINAL SIZE)	0.75	L1 8.00mm
TERMINAL PLATING, PLATED	YES	A1 4.00mm
NEURO ESTIMATION		COMPUTED CROSS-SECTIONAL AREA 0.7895mm^2
TYPE C/W	2.77mm	NUMBER OF CONSTITUENT WIRES 19ea
C/H	1.44mm	RADIUS OF ANVIL 2.40mm

Fig. 5B

[ESTIMATION RESULTS] ===

No.	C/H	COMPRESSIBILITY	ADHESION FORCE	RESISTANCE	CRIMP SHAPE
1	1.19	66.09	11.75	0.07	
2	1.24	69.54	12.46	0.09	
3	1.29	73.34	13.14	0.12	
4	1.34	77.27	13.75	0.16	
5	1.39	82.31	14.27	0.19	
6	1.44	87.71	14.68	0.24	
7	1.49	93.90	14.94	0.31	
8	1.54	101.04	15.01	0.42	
9	1.59	109.26	14.70	0.61	
10	1.64	118.64	13.57	0.98	

C/H CRIMP HEIGHT
C/W CRIMP WIDTH

Fig. 5C

ADHESION FORCE (AVE.)
ADHESION FORCE (AVE. – 3σ)
RESISTANCE (MAX.)
RESISTANCE (AVE.)

C / H

ADHESION FORCE
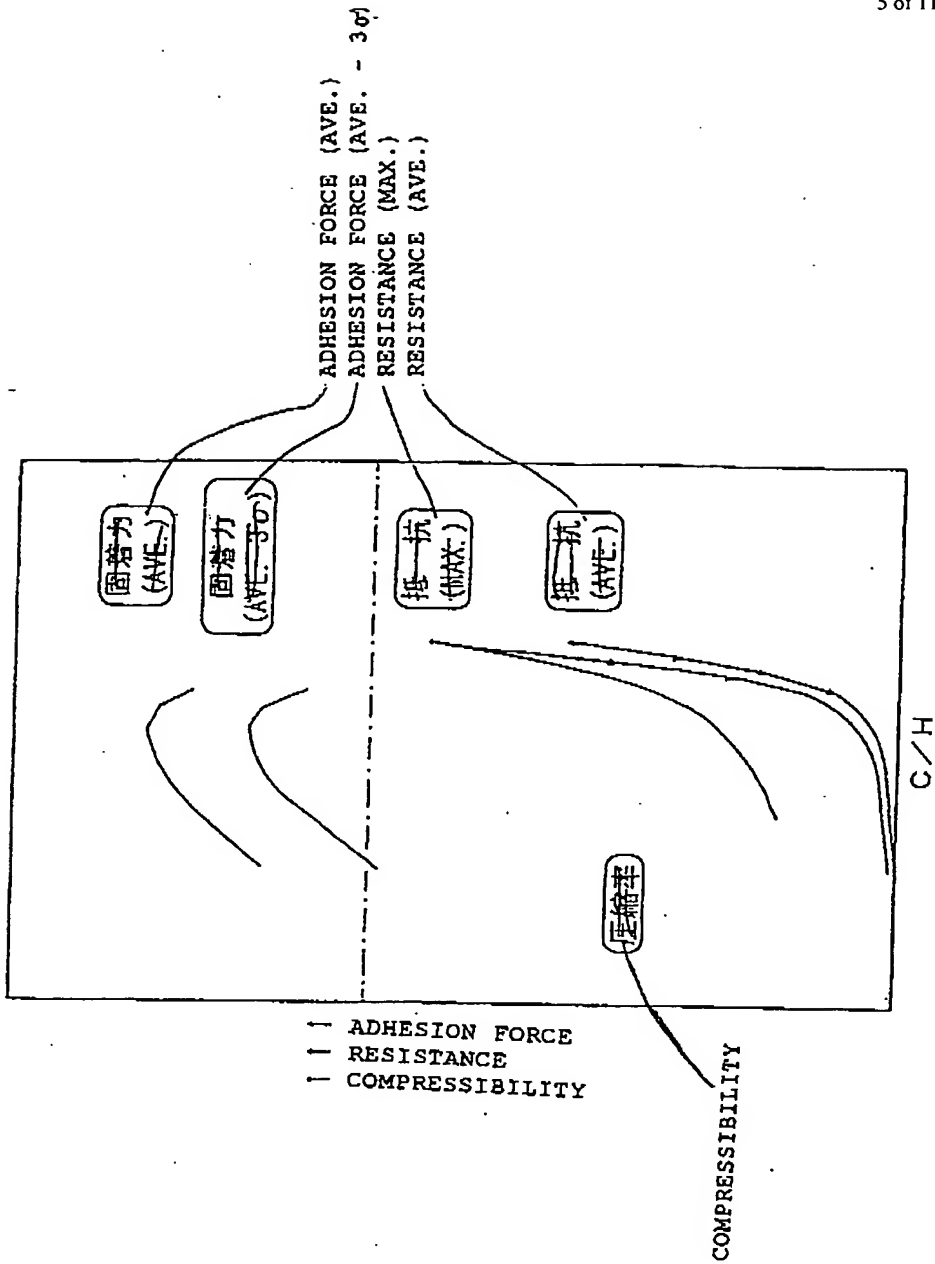RESISTANCE
COMPRESSIBILITY

COMPRESSIBILITY

FIG 6

COMPUTED CROSS-SECTIONAL AREA

SERRATION (SIZE, SHAPE)

PLATING TYPE

PLATE THICKNESS 10a

BARREL LENGTH 10b

10c

10g

CONSTITUENT WIRE FORM

RADIUS OF ANVIL

CRIMPER r

CRIMP LENGTH

MATERIAL (MODULUS OF LONGITUDINAL ELASTICITY, HARDNESS etc.)

NUMBER OF CONSTITUENT WIRES

OUTPUT OF ESTIMATED CHARACTERISTIC VALUE

COMPRESSIBILITY
RESISTANCE
ADHESION FORCE

C/H 1~10   306a

406a

605b

506a

406a

ITERATE C/H OF 10 STANDARDS

NUMBER OF LOOPING OPERATIONS = 10

C/W: CRIMP WIDTH
C/H: CRIMP HEIGHT

20 C/W ESTIMATION SECTION
21 C/W SETTING SECTION
30 C/H ESTIMATION SECTION
40 COMPRESSIBILITY ESTIMATION SECTION
50 ADHESION FORCE ESTIMATION SECTION
60 RESISTANCE ESTIMATION SECTION
70 SEQUENTIAL OUTPUT SECTION

FIG. 7

CRIMPING [INTERNAL PROCESSING FLOW]

PLATE THICKNESS

BEAM WIDTH

SLOT DEPTH

YOUNG'S MODULUS

CROSS-SECTIONAL AREA OF CONDUCTOR

WIRE DIAMETER

NUMBER OF CONSTITUENT WIRES

HARDNESS OF CLADDING

ITERATE C/H OF 10 STANDARDS

NUMBER OF LOOPING OPERATIONS = 10

ESTIMATED CHARACTERISTIC OUTPUTS

電接荷重 1～10

抵抗 1～10

引抜き強度 1～10

CRIMP LOAD

RESISTANCE

TENSILE STRENGTH

80 SLOT WIDTH ESTIMATION SECTION
90 CRIMP HEIGHT ESTIMATION SECTION
81 SLOT WIDTH SETTING SECTION
100 LOAD ESTIMATION
110 WITHDRAWAL FORCE ESTIMATION SECTION
120 RESISTANCE ESTIMATION SECTION
130 SEQUENTIAL OUTPUT SECTION

FIG. 8A

FIG. 8B

FIG.9

○ 8 0 6 a — 5 p   (1)

○ 8 0 6 a — 4 p   (2)

○ 8 0 6 a — 3 p   (3)

○ 8 0 6 a — 2 p   (4)

○ 8 0 6 a — p   (5)

8 0 6 a ● ——→ ● 8 0 6 a   (6)
(推定値千個)

One Estimated Value   ○ 8 0 6 a ＋ p   (7)

○ 8 0 6 a ＋ 2 p   (8)

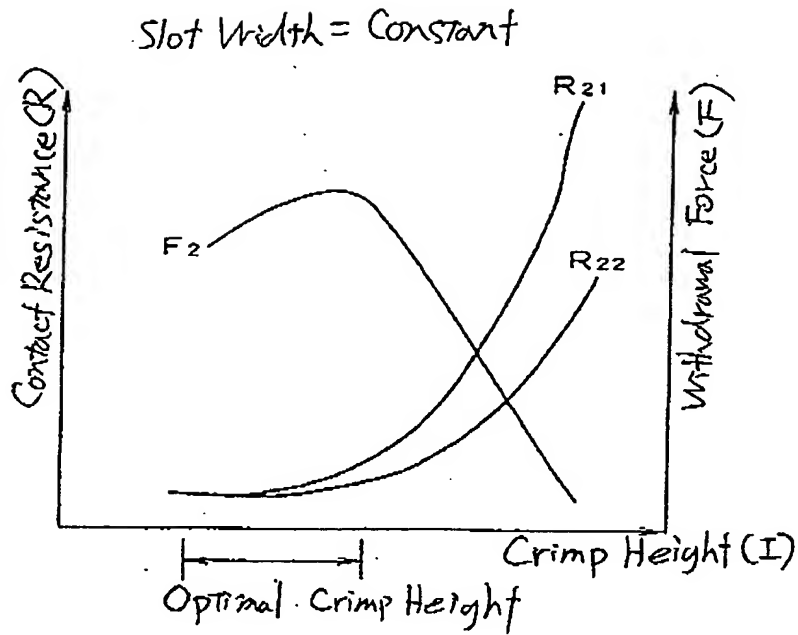○ 8 0 6 a ＋ 3 p   (9)

○ 8 0 6 a ＋ 4 p   (10)

P: Interval : 0. 05 (0. 1) mm

Slot Width = Constant

FIG. 10A

FIG. 10B

FIG.11